ABSTRAK

ZAINI YULIANA, Pengembangan Model Pembelajaran Matematika Berbasis Pendekatan *Scientific* Berbantuan *Software Autograph* Untuk Meningkatkan Kemampuan Pemecahan Masalah dan Berpikir Kreatif Siswa Kelas X_2 TKJ SMKS Citra Abdi Negoro Batubara. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, Februari 2016.

Penelitian ini bertujuan untuk: (1) meningkatkan kemampuan pemecahan masalah dan berpikir kreatif matematik siswa (2) mengetahui keefektifan model pembelajaran matematika berbasis pendekatan *Scientific* berbantuan *software Autograph*. Model pembelajaran yang dikembangkan dilengkapi dengan perangkat pembelajaran berupa RPP, dan LKS. Jenis penelitian ini adalah penelitian model pengembangan 4-D *(define, design, develop,* dan *disseminate)* Thiagarajan, dan kemudian dimodifikasi menjadi 3-D dengan subjek penelitian ini siswa kelas X_2 TKJ SMKS Citra Abdi Negoro Batubara yang berjumlah 30 orang. Uji coba dilakukan sebanyak tiga kali. Pada uji coba-1, dan uji coba-2 diperoleh peningkatan kemampuan pemecahan masalah dan berpikir kreatif matematik tetapi keefektifan model pembelajaran belum terlaksana, karena terdapat kriteria ketercapaian tujuan pemebelajaran dan alokasi waktu yang belum mencapai efektif. Hasil uji coba-1, dan uji coba-2 dijadikan bahan untuk merevisi model pembelajaran. Pada uji coba-3 model pembelajaran sudah meningkat dan mencapai kriteria efektif. Hal ini ditunjukkan oleh: (a) Ketercapaian tujuan pembelajaran melebihi minimal 60%, (b) Ketercapaian kriteria ketuntasan klasikal terpenuhi yaitu 75% dari seluruh sampel telah mampu mencapai nilai minimal 2,67 atau B^-, (c) Ketercapaian alokasi waktu terpenuhi. Model pembelajaran yang dikembangkan menghasilkan sintaks yang meliputi: (1) Mengamati tampilan melalui infokus, (2) Menanyakan hal yang tidak dipahami ke guru maupun temannya, (3) Mencoba eksperimen menggunakan *software Autograph*, (4) Mengolah informasi yang terkumpul dan menyelesaikan LKS menggunakan *software Autograph*, (5) Mengkomunikasikan hasil kerja kelompok menggunakan infokus.

Kata kunci: Pendekatan *Scientific* berbantuan *software Autograph*, pemecahan masalah, dan berpikir kreatif matematik.

ABSTRACT

ZAINI YULIANA, Development of Mathematics Instructional Model-Based Approach Scientific Autograph Aided Software To Improve Problem Solving Ability and Creative Thinking Students Class X_2 TKJ SMKS Citra Abdi Negoro Batubara. Thesis. Terrain: Graduate School, State University of Medan, in February 2016.

This study aims to: (1) enhance the problem solving and creative thinking mathematical students (2) determine the effectiveness of mathematics teaching model based approach to software-aided Scientific Autograph. Learning model developed learning tools such as lesson plans and worksheets. This research is a study model of development of the 4-D (define, design, develop, and disseminate) Thiagarajan, and then modified into 3-D with this research subject class X_2 TKJ SMKS Citra Abdi Negoro Batubara totaling 30 people. The trials were conducted three times. In the trial-1, and trial-2 is obtained an increase in the problem solving and creative thinking, but the effectiveness of mathematics teaching model has not been done, because there are criteria pemebelajaran goal achievement and time allocations that have not reached effectively. The results of trials-1, and trial-2 used as material for revising the learning model. At trial-3 model of learning has increased and reached the criteria effectively. This is shown by: (a) Achievement of learning goals exceeded at least 60%, (b) Achievement of classical completeness criteria are met, namely 75% of the entire sample has been able to achieve a minimum score of 2.67 or B - (c) Achievement time allocation are met. Learning model developed generates a syntax that includes: (1) Viewing the display through infokus, (2) Asking for things is not understood to teachers and friends, (3) Try an experiment using software Autograph, (4) Processing information collected and completed worksheets using Autograph software, (5) Communicate the results of the group work using infokus.

Keywords: Scientific Approach Autograph aided software, solving problems, and creative thinking mathematically.